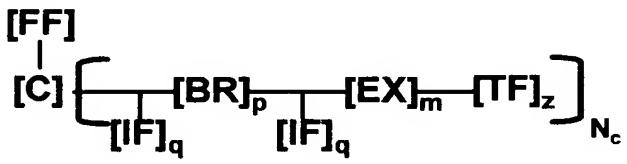
AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows:

1. (Currently amended) A dendritic polymer of Formula (I):



Formula (I)

wherein:

(C) means a core;

(FF) means a focal point functionality component of the core;

(BR) means a branch cell, which if p is greater than 1 (BR) may be the same or a different moiety;

p is the total number of branch cells (BR) in the dendrimer and is an integer from 1 to 2000 derived by

$$p = \text{Total \# of (BR)} = \left(\frac{N_b^{G1}}{N_b} + \frac{N_b^{G2}}{N_b} + \frac{N_b^{G3}}{N_b} + \ldots \frac{N_b^{Gi}}{N_b} \right)_{N_c} = \left(\sum_{x=0}^{x=i-1} N_b^{x} \right)_{N_c}$$

(IF) means interior functionality, which if q is greater than 1 (IF) may be the same or a different moiety;

q is independently 0 or an integer from 1 to 2000;

(EX) means an extender, which if m is greater than 1 (EX) may be the same or a different moiety;

m is independently 0 or an integer from 1 to 1000;

(TF) means a terminal functionality, which if z is greater than 1 (TF) may be the same or a different moiety;

z means the number of surface groups from 1 to the theoretical number possible for the (BR) for a given generation (G) and is derived by

$$z = N_c N_b^{G};$$

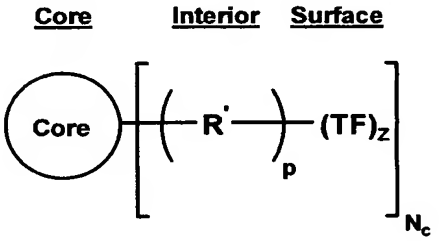
G is number of concentric branch cell shells surrounding the core;

N_b is branch cell multiplicity; and

N_c is core multiplicity and is an integer from 1 to 1000; and

with the proviso that at least one of (EX) or (IF) is present.

2. (Original) A dendritic polymer of Formula (III):



Where:
N_b = branch cell multiplicity
N_c = core multiplicity
$z = N_c N_b^{Gi}$
G = Generation (i.e., 1,2,3 ...*i*)
TF = terminal functionality

R' = (BR)

$$p = \text{Total \# of (BR)} = \left(\frac{N_b^{G1}}{N_b} + \frac{N_b^{G2}}{N_b} + \frac{N_b^{G3}}{N_b} + \ldots \frac{N_b^{Gi}}{N_b} \right)_{N_c} = \left(\sum_{x=0}^{x=i-1} N_b^{x} \right)_{N_c}$$

Formula (III)

3. (Original) The dendritic polymer of Claim 1 wherein (C) is a simple core.

4. (Original) The dendritic polymer of Claim 1 wherein (C) is a scaffording core.

5. (Original) The dendritic polymer of Claim 1 wherein (C) is a super core.

6. (Original) The dendritic polymer of Claim 1 wherein (C) is at least one nucleophilic or one electrophilic moiety; or a polyvalent core bonded to at least two ordered dendritic branches; or a core atom or molecule that may be any monovalent or monofunctional moiety or any polyvalent or polyfunctional moiety, preferably a polyfunctional moiety having 2-2300 valence bonds of functional sites available for bonding with dendritic branches.

7. (Original) The dendritic polymer of Claim 6 wherein (C) is triacrylate, tetraacrylates, triepoxide, tetraepoxide, diglycidyl aniline, aminoethanol, ethylenediamine, triphenylmethane, triglycidylether, *bis*(glycidoxyphenyl)methane, methylene *bis*(diglycidylaniline), tetraepisulfide, and *tris*glycidlyisocyanurate(epoxypropyl)cyanurate.

8. (Original) The dendritic polymer of Claim 6 wherein (C) is cystamine, isocyanurate, heterocycles, multicarbon cores (ethylene, butane, hexane, dodecane), phosphine, or linear, branched or cyclic moieties with single or multiple functional epoxides.

9. (Original) The dendritic polymer of Claim 1 wherein (FF) is any moiety that enables a dendron to be used as a core, enables the joining of two or more dendrons together, or enables reaction with a (BR).

10. (Original) The dendritic polymer of Claim 9 wherein (FF) is thiols, amines, carboxylic acids, esters, ethers, cyclic ethers (*e.g.*, crown ethers, cryptands), porphyrins, hydroxyl, maleimides, aldehydes, alkyl halides, arylalkyl halides, phosphines, boranes, alcohols, aldehydes, acrylates, alkenes, cyclic anhydrides, aziridines, pyridines, nitriles, itaconates, cyclic thiolactones, thioranes, azetidines, cyclic lactones, macrocyclics, chelating ligands, isocyanates, isothiocyanates, alkynes, imidazoles, azides, mercaptoamines, silanes, oxazolines, oxirane, oxetane, oxazines, imines, tosylates, protecting groups, and siloxanes or derivatives, substituted derivatives or combinations thereof, wherein the number of carbons present in each of these moieties, when present, is from at least 2 to 18; halo means chloro, bromo, fluoro, or iodo; hetro means S, N, O, Si, B, or P.

11. (Original) The dendritic polymer of Claim 10 wherein (FF) is are mercapto, amino, carboxy, oxazoline, isothiocyanates, isocyanates, hydroxyl, epoxy orthoester, or acrylates.

12. (Original) The dendritic polymer of Claim 1 wherein (BR) is any nucleophilic or electrophilic reagent that is capable of reacting with the (C), an extender (EX), with another branch cell or branch cell reagent (BR) or a terminal functional group (TF) and result in a multiplicity of reactive groups for the next generation (G).

13. (Original) The dendritic polymer of Claim 12 wherein (BR) is used with a coreactant to form a core adduct and then further reacted with a second coreactant.

14. (Original) The dendritic polymer of Claim 12 wherein (BR) is triacrylate, tetraacrylates, triepoxide, tetraepoxide, diallyl amine, diethanol amine, diethyliminodiacetate, *tris*(hydroxymethylamine), diethyliminodiacetate, protected DETA, or methyl acrylate may be used, including *in situ.*

15. (Original) The dendritic polymer of Claim 12 wherein (BR) is a cyclic ethers (epoxides), oxiranes, sulfides (epichlorosulfide), aziridines, azetidines, siloxanes, oxetanes, oxazolines, oxazines, carbamates, caprolactones, carboxyanhydrides, thiolactones, and beta-lactams.

16. (Original) The dendritic polymer of Claim 1 wherein (IF) is any active moiety formed from a ring opening reaction resulting in interior reactive sites.

17. (Original) The dendritic polymer of Claim 16 wherein (IF) is hydroxyl, sulfhydryl, amine, alkylsilane, silane, boranes, carboxy, or amide.

18. (Original) The dendritic polymer of Claim 16 wherein (IF) is hydroxyl, thiol, or amine.

19. (Original) The dendritic polymer of Claim 1 wherein (EX) is a moiety capable of lengthening the distance for the (BR) reagent before the groeth of the next G.

20. (Original) The dendritic polymer of Claim 19 wherein (EX) is lysine, other poly(amino acids), oligoethyleneglycols, diethylenetetraamine and higher amine analogs, fatty acids with di- or greater heterogeneous or homogenous functionality, unsaturated aliphathic and aromatic difunctional or polyfunctional moieties, and hetergenous unsaturated alipathic and aromatic difunctional or polyfunctional moieties.

21. (Original) The dendritic polymer of Claim 19 wherein (EX) is diaminoalkanes, diphenols, dithiophenols, aromatic poly(carboxylic acids), mercaptoamines, mercaptoethanol, allylamines, piperazine, amino ethyl piperazine, ethyl-N-piperazine carboxylate, ethylenediamine, diethylaminodiacetate, and hyperbranched dendritic polymers such as polylysine.

22. (Original) The dendritic polymer of Claim 1 wherein (TF) is any functionally active moiety that can propagate the dendritic branch to the next generation.

23. (Original) The dendritic polymer of Claim 22 wherein (TF) is piperazine, acrylate, methacrylate, acrylamides, hydroxyl, epoxide, oxazoline, amino, ethyl imines, piperazine, carboxylates, alkyl, aziridine, alkyl esters, epoxide and alcohol groups, thiorane, morpholine, amine, carboxyl, allyl, hydroxyl and epoxide, methyl ester, protected DETA, carboxy alkyl, pyrrolidone, and ethyl piperazine.

24. (Original) The dendritic polymer of Claim 22 wherein (TF) is polyethyleneglycol, pyrrolidone, hexylamides, tris(hydroxymethyl)amidomethane, amidoethylethanolamine, carbomethoxypyrrolidinone, succinamic acid, amidoethanol, epoxides, acrylates, amines, carboxylates, cationic, anionic, neutral, aromatic, biotin, avidin, strepavidin, DOTA, DTPA, metal chelates, organic chromophores, polyvalent attached compounds, carbon nanotubes, fullerenes, nanocomposites, all metal nanoparticles, all semiconductor nanoparticles with all varieties of cores and shells, radioactive materials and their chelated analogues, fluorescent molecules (metal salts, organic compounds), electrically

conductive molecules, UV, VIS, and IR absorbing molecules, quantum dots, polyfluorinated molecules, surfactants, dendrons, differentiated dendrons, dendrimers, methoxy ethoxy ethoxy, polyazo compounds, polyphosphazine , polyfluorinated sulfonates, heteroatoms chains and branches, lipids, starches, simple sugars, complex sugars, vitamins (*e.g.* vitamin. E), cofactors (*e.g.* NADH), or antioxidants.

25. (Canceled)

26. (Original) The dendritic polymer of Claim 1 wherein the polymer has enhanced thermal stability, improved chemical stability, and a low polydispersity range.

27. (Original) The dendritic polymer of Claim 1 or 2 wherein a carried material (M) is associated with the dendritic polymer on either its interior or surface.

28. (Original) The dendritic polymer of Claim 27 wherein the carried material is associated with the interior of the dendritic polymer.

29. (Original) The dendritic polymer of Claim 27 wherein the carried material is a pharmaceutically active agent or pro-drug.

30. (Original) A formulation which comprises a dendritic polymer of Claim 29 having at least one pharmaceutically-acceptable diluent or carrier present.

31. (Original) The dendritic polymer of Claim 27 wherein the carried material is an agriculturally active agent.

32. (Original) A formulation which comprises a dendritic polymer of Claim 31 having at least one agriculturally-acceptable diluent or carrier present.

33. (New) The dendritic polymer of Claim 1 or 2 wherein the polymer is any one of the following:

[(C)=EDA; (FF)=H; (BR1)= TMPTA; (EX1)=HSEt; (TF)=OH ; G= 1];

[(C)=HMDA; (BR) = TMPTA; (EX) = EA; (TF) = OH; G= 1];

[(C)=HMDA; (BR1) = TMPTA; (EX1) =Morpholine; (TF) = Cyclic ether; G=1];

[(C) = EDA; (FF) = H; (IF1) = OH; (BR1) = TMPTGE; (TF) = Epoxy; G= 1];

[(C) = HMDA; (IF) = OH; (BR) = TMPTGE; (TF) = Epoxy; G= 1];

[(C) = PETGE; (IF1) = OH ; (EX1)= PIPZ-CO_2Et; (TF) = CO2Et; G=0.5];

[(C) = PETGE; (IF1) = OH ; (EX1)= PIPZ; (IF2) = OH; (BR1) = PETGE; (IF3) = OH; (EX2) = PIPZ; (TF) = NH; G=1.5];

[(C) = PETGE; (IF1) = OH ; (EX1)= PIPZ; (IF2) = OH; (BR1) = PETGE; (IF3) = OH; (EX2) = PIPZ; (IF4) = OH; (BR2) = PETGE; (IF5) = OH; (EX3) = PIPZ; (TF) = NH; G=2.5];

[(C) = PETGE; (IF1) = OH ; (EX1)= PIPZ; (IF2) = OH; (BR1) = PETGE; (IF3) = OH; (EX2) = PIPZ; (IF4) = OH; (BR2) = PETGE; (IF5) = OH; (EX3) = PIPZ; (IF6) = OH; (BR3) = PETGE; (IF7) = OH; (EX4) = PIPZ; (TF) = NH; G=2.5];

[(C) = PETGE; (IF1) = OH ; (EX1)= PIPZ; (IF2) = OH; (BR1) = PETGE; (IF3) = OH; (EX2) = PIPZ; (IF4) = OH; (BR2) = PETGE; (IF5) = OH; (EX3) = PIPZ; (IF6) = OH; (BR3) = PETGE; (IF7) = OH; (EX4) = PIPZ; (TF) = NH; G=3.5];

[(C) = TMPTGE; (FF)=Et; (IF1) = OH; (EX1) = PIPZ; (IF2) = OH; (BR1) = TMPTGE; (IF3) = OH; (EX2) = PIPZ; (TF) = NH; G=1.5];

[(C) = TPMTGE; (FF) = H; (IF1) = OH; (BR1) = TRIS; (TF) = OH; G=1];

[(C) = TMPTA; (FF) = Et; (EX1) = PIPZ; (BR1) = TMPTA; (EX2) = PIPZ; (TF) = NH; G=1.5];

[(C) = PETGE; (IF1) = OH; (BR1) = BAA; (TF)=Allyl; G=1];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (BR1) = TRIS; (TF) = OH; G=1];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (BR1) = DEA; (TF) = OH; G=1];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH ; (BR1) = DEIDA; (TF) = CO_2Et; G=1.5];

[(C) = TPMTGE; (FF) = H; (IF) = OH; (BR1) = DEA; (TF) = OH; G=1];

[(C) = TPMTGE; (FF) = H; (IF1) = OH; (BR1) = DEIDA; (TF) = CO_2Et; G=1.5];

[(C) = PETGE; (IF1) = OH; (EX1) = EPC; (TF)=CO_2Et; G=0.5]

[(C) = TMPTA; (FF) = Et; (EX1) = PIPZ; (TF) = NH; G = 0.5];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (EX1) = PIPZ; (TF) = NH; G = 0.5];

[(C) = TGIC; (IF1) = OH; (EX1) = PIPZ; (TF) = CO_2Et; G = 0.5];

[(C) = TGIC; (IF1) = OH; (EX1) = PIPZ; (TF) = NH; G = 0.5];

[(C) = TES; (IF1) = SH; (EX1) = EPC; (TF) = CO_2Et; G = 0.5];

[(C) = PETGE; (IF1) = OH; (EX1) = AEP; (TF) = NH_2; G = 0.5];

[(C) = PETGE; (IF1) = OH; (TF) = Aziridine; G = 0.5];

[(C) = DMDTB; (EX1) = AEP; (IF1) = OH; (BR1) = PETGE; (EX2) = EPC; (TF) = CO_2Et; G = 0.5];

[(C) = PETGE; (IF) = Acetyl; (EX1) = EPC; (TF) = CO_2Et; G = 0.5];

[(C) = TMPTA; (FF) = Et; (EX1) = PIPZ; (BR1) = TMPTA; (TF) = Acrylate; G = 1];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (EX1) = PIPZ; (IF2) = OH; (BR1) = TMPTGE; (TF) = OMe; G = 1];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (BR1) = DEIDA; (EX1) = EDA; (TF) = NH2; G = 1];

[(C) = PETGE; (IF1) = OH; (EX1) = PIPZ; (IF2) = OH; (BR1) = PETGE; (IF3) = OH; (EX2) = Piperazine carboxylate; (TF) = CO_2H; G = 1.5];

[(C) = PETGE; (IF1) = OH; (BR1) = DIA; (TF) = NH_2; G = 1];

[(C) = TPMTGE; (FF) = H; (IF1) = OH; (BR1) = DEIDA; (EX1) = EDA; (TF) = NH_2; G = 1];

[(C) = BGPM; (IF1) = OH; (BR1) = TRIS; (TF) = OH; G = 1];

[(C) = BGPM; (IF1) = OH; (BR1) = DEIDA; (TF) = CO_2Et; G = 1.5];

[(C) = BGPM; (IF1) = OH; (BR1) = DEIDA; (EX1) = EDA; (TF) = NH_2; G = 1];

[(C) = DGGA; (IF1) = OH; (EX1) = PIPZ; (TF) = NH; G = 1.5];

[(C) = EDA; (FF) = H; (BR1) = TMPTA; (TF) = Acrylate; G = 1];

[(C) = HMDA; (BR) = TMPTA; (TF) = Acrylate; G = 1];

[(C) = EA; (FF) = OH; (IF1) = OH; (BR1) = TMPTGE; (TF) = Epoxide; G = 1];

[(C) = PETGE; (IF1) = OH; (EX1) = Et-PIPZ; (BR1) *in situ* = Methylacrylate; (TF) = CO_2Me; G = 1.5];

[(C) = PETGE; (IF1) = OH; (BR1) = DETA; (EX1) = Pyrrolidone; (TF) =CO_2Me; G = 1.5];

[(C) = TEPC; (IF1) = OH; (BR1) = DIA; (EX1) = Pyrrolidone; (TF) = CO_2Me; G = 1.5];

[(C) = PETGE; (IF1) = Acetyl; (EX1) = PIPZ; (IF2) = Acetyl; (BR1) = TMPTGE; (IF3) = Acetyl; (EX2) = EPC; (TF) = CO_2Et; G = 1.5];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (EX1) = Morpholine; (TF) = Cyclic ether; G = 1];

[(C) =MBDGA; (IF1) = OH; (BR1) = TRIS; (EX1) = DMI; (TF) = OH & Epoxide; G = 1];

[(C) = DGGA; (IF1) = OH; (EX1) = PIPZ; (TF) = NH; G = 1.5];

[(C) = TMPTA; (FF) = Et; (EX1) = PIPZ; (BR1) = TMPTA; (EX2) = PIPZ; (BR2) = TMPTA; (TF) = Acrylate; G = 2];

[(C) = TMPTGE; (FF) = Et; (IF1) = OH; (EX1) = PIPZ; (IF2) = OH; (BR1) = TMPTGE; (IF3) = OH; (EX2) = PIPZ; (IF4) = OH; (BR2) = TMPTGE; (IF5) = OH; (EX3) = PIPZ; (TF) = NH; G = 2.5];

[(C) = PETGE; (IF1) = OH; (BR1) = DETA; (BR2) *in situ* = Methylacrylate; (TF) = CO_2Me; G = 2.5];

[(C) = MBDGA; (IF1) = OH; (BR1) = DEA; (TF) = OH; G = 2];

[(C) = MBDGA; (IF1) = OH; (BR1) = DEIDA; (TF) = CO_2Et; G = 2.5];

[(C) = MBDGA; (IF1) = OH; (BR1) = DEIDA; (EX1) = EDA; (TF) = NH_2; G = 2];

[(C) = PETGE; (IF1) = OH; (BR1) = BAA; (BR2) = PAMAM; (IF2) = Allyl; (TF) = Pyrrolidone; G = 2.5];

[(C) = (S-Et-NH_2)$_2$; (IF1) = NH; (EX1) = AcO_2; (TF) = CO_2Me; G = 0.5];

[(C) = S; (FF) = S-isoProCO_2Me; (IF1) = NH; (EX1) = Me Acryl; (TF) = CO_2Me; G = 0.5]; and

[(C) = S; (FF) = S-isoProOxa; (IF1) = NH; (EX1) = isoProOxa; (TF) = CO_2Me; G = 0.5].